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Education

The Science of Learning™

Learning to Read:
Letters, Words,
and Sentences

Volume 1

APPLE®



Free



The Science of Learning™

Learning to Read: Letters, Words, and Sentences

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LEARNING TO READ:
Letters, Words, and Sentences
Parent/Teacher Guide
by
MicroTeacher, Inc.

The Science of Learning

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Acknowledgments

NORMAN OWEN, Ph.D. developed the New Phonetic Method of reading instruction including the general instructional sequence, prompting techniques, and general reading content. Dr. Owen operates Learning Horizons, a reading clinic in San Diego, California.

BENNIE R. LOWERY adapted the instructional content for the computer, developed the games, and directed the development effort. Mr. Lowery is a reading specialist with more than a dozen years of teaching and instructional development experience. He received his Ed.D. in 1984.

M. DAVID MERRILL, Ph.D. provided the instructional design for Learning to Read. He has 20 years of experience in designing computer assisted instruction and pioneered the idea of learner control in that area. Dr. Merrill is professor of Educational Psychology and Technology at the University of Southern California and is an internationally known authority in instructional design and computer based education.

BYUNG-SUN CHOUNG created many of the complex algorithms behind the prompting system. As lead programmer, he was also responsible for programming the synthesized sound capability.

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INTRODUCTION

Though *Learning to Read: Letters, Words, and Sentences* is serious instruction, it is a fun and very effective way for young children to learn to read.

The reading curriculum on which *Learning to Read* is based has been used successfully with preschool and first grade children. It has also had favorable results with older students who have completed the first grade without acquiring reading skills.

Learning to Read helps children recognize the sounds associated with individual letters and digraphs (two letter combinations, e.g. *ch*). This program also teaches alternate combinations of letters or digraphs associated with some of these sounds. The young student learns to blend these individual sounds into words and using specific decoding skills taught in *Learning to Read*, he will be able to read about 80% of the words in his spoken vocabulary. The child will also understand sentences composed of these words.

Even very young children have a rather large spoken vocabulary, often between 2000 and 5000 words on entering the first grade. Writing uses symbols (letters) to record spoken language. The first step in learning to read (decoding) is learning to convert these symbols back to spoken language. If a child can convert written symbols to sounds and then match these sounds with words which are already part of his spoken vocabulary, then he can read and understand any word that he can speak. When one letter makes one and only one sound, as is true in some languages such as Russian, then the decoding stage of reading is relatively easy for children to master. However, many of the spoken sounds in the English language are made

by two or more letters or digraphs, and some letters can make several different sounds. This makes learning to read English much more difficult.

Using the letters of the alphabet together with digraphs, Dr. Owen developed a phonetic system in which one letter or digraph corresponds to only one sound. If words were spelled according to this system, there would be no confusion. Each sound would be represented by only one letter or digraph.

Learning to Read teaches children to read using the New Phonetic Method. When students have mastered this one-to-one correspondence of letters to sounds, *Learning to Read* introduces the alternate letter combinations. Some of the letter groups always make the same sound. For example, the letters *ph* always make the *f* sound, as in *phone*; the letters *dge* always make the *j* sound, as in *dodge*.

Many alternate letter combinations may be pronounced in two, three, or more different ways. For example, the letter *s* sometimes makes the *s* sound, as in *see*. At other times it makes the *z* sound, as in *was*. This phonetic system helps students learn alternate spellings.

A multi-level prompting system is perhaps the most valuable feature of *Learning to Read*. A unique teaching tool, it makes the most of the computer as a learning machine. This prompting system helps the student to read new words and to decode unfamiliar words using the phonetic system taught in the first lessons of *Learning to Read*. The prompting system is described in detail in the "Instructional Techniques" section of this guide.

Research has shown that when all of a student's senses are engaged, learning improves. *Learning to Read* uses seeing, hearing, and motor activities so that learning and remembering are assured. The computer screen presents visual information, the speech synthesizer presents auditory information, and the student has to respond by pointing to a letter, word or box on the screen. The beginning reader is encouraged to speak to the computer, answering questions aloud, so that the link between spoken and written language is reinforced.

The screen displays are simple and non-distracting. Too often computerized instruction, which is aimed at very young children, is designed to suit adult tastes. *Learning to Read* uses very simple displays so that children will pay attention to the

letters and words presented and not be distracted by irrelevant screen clutter. If children are expected to attend to letters and carefully examine each one for its unique qualities, then the screen can contain nothing more interesting than the information to be mastered.

The learning games and activities in this series are designed to be enjoyable practice in recognizing sounds, letters, and words. They are not designed to exercise the imagination or to improve eye-hand coordination. For these reasons, non-instructional graphics have been kept to a minimum. We have used graphics and animation only to create an entertaining atmosphere. There is no negative feedback for wrong answers nor are there spectacular consequences if the child fails to win at an instructional game. Feedback is always positive. Music, happy faces, and verbal encouragement are used in a variety of combinations. If a child presses a key accidentally or makes an incorrect response, a soft buzz informs the child that he did not select the correct answer.

Young children do not always pay close attention to directions the first time they are heard. *Learning to Read* lets the beginning reader hear the directions again; he simply presses **[RETURN]** after the directions are completed. Games may be replayed by pressing **[RETURN]**. In general, the only keys the child presses (except for finding the letter on the keyboard) are the **[SPACE BAR]**, **[RETURN]**, **[?]**, **[→]**, and **[←]**.

Learning to Read is one of the most sophisticated beginning reading programs available. It is designed to teach a child to read, not just reinforce the school's effort or entertain a child with reading-related activities. We have designed the program for young children; we have eliminated the need for written directions.

The Learning Manager, designed with the busy teacher and parent in mind, is an important and useful addition to this series. Once a child is enrolled, the program takes charge and keeps track of his progress without further adult involvement. *Learning to Read* makes the task of helping your child become literate a pleasant experience.

Thank you for using this series. We know that it will make your child's life more rewarding.

HOW TO USE LEARNING TO READ

Installing the ECHO II Speech Synthesizer

Turn off the power to the computer. This is important and will prevent damage to your computer and the ECHO II. Push the speaker cable into the jack labelled "speaker" on the ECHO II.

Remove the cover from your computer. Pull up on the cover at the rear edge (the edge farthest from the keyboard) until the two corner fasteners pop apart. Do not lift the edge any further. Slide the cover back until it comes free.

Inside the computer, along the rear edge of the large circuit board, there is a series of eight long, narrow sockets called slots. The slots are numbered 0 through 7 if you have an Apple II or II+, and 1 through 6 if you have an Apple IIe. The ECHO II can be installed in any slot except 0 and 6. Slot 0 is for a language card and slot 6 is for a disk drive. We recommend you use slot 4, but another slot will work just as well.

Insert the ECHO II, the gold "fingers" (the gold bars along the lower jutting edge of the ECHO II) down, into the slot using a gentle rocking motion until the ECHO II is firmly seated.

Attach the speaker to the inside, right wall of your computer using the tape provided. Be sure to adjust the volume to a comfortable level.

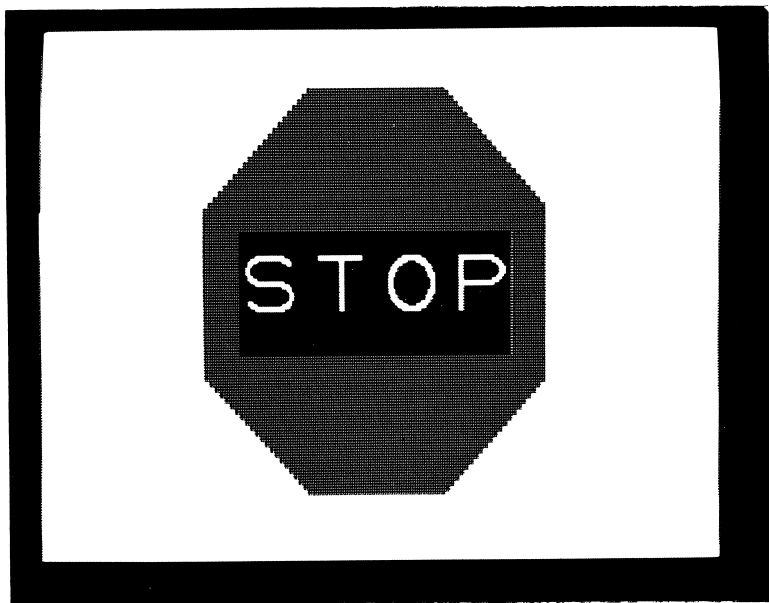
Replace the cover of the computer by sliding the front edge of the cover into place and then pressing down on the rear corners until they snap closed.

Once you have installed the ECHO II, you are ready to load *Learning to Read* into the computer. Insert Volume 1, Disk 1 into the disk drive. Close the drive latch and turn on the computer and monitor. If you are using an Apple IIe or Franklin Ace, make sure the CAPS LOCK is down. *Learning to Read* will run automatically.

The Learning Manager

The Learning Manager allows you to create a roster to keep track of student scores. The program uses this list to monitor a child's progress in much the same way a teacher uses roll cards to keep track of his or her class.

The first time you use *Learning to Read* you will see a *Stop Sign* on the screen.



This display means that no teacher password has been entered into the system and that no students are enrolled in the student roster. When the *Stop Sign* appears, press [CTRL] [C] to get into the Learning Manager. When you see the message NO CLASS

LIST, press any key to create one. Now you see the question **WHICH SLOT IS ECHO II IN**. Type in the slot number in which the ECHO II is installed and press **[RETURN]**. Now the Learning Manager appears on the screen.

```

LEARNING MANAGER
TEACHER : BENNIE
NAME      NEXT LESSON  REVIEW LESSON
#  /-----/
1  /-----/          0
2  /-----/          0
3  /-----/          0
4  /-----/          0
5  /-----/          0
6  /-----/          0
7  /-----/          0
[ E ] RASE STUDENTS      [ A ] DD STUDENTS
[ C ] HANGE ECHO SLOT    [ R ] ENAME TEACHER
[ L ] OOK AT CLASS LIST  [ T ] RANSFER STUDENT
[ G ] O TO HELLO PAGE
INSERTING : TO STOP, PRESS [CTRL] [C]

```

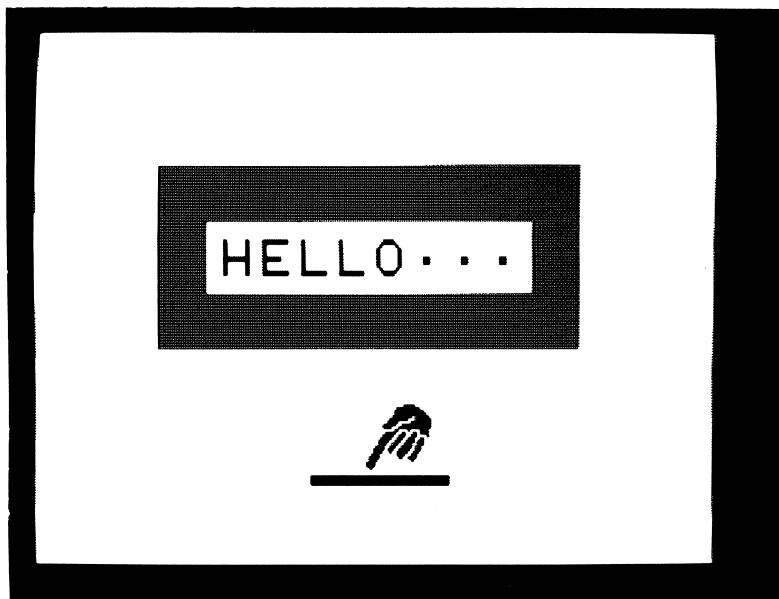
You must enter a password. It can use capital letters, numbers, or a combination of the two, and have up to ten characters. If you are using the Apple IIe or a Franklin Ace, press **[CAPS LOCK]** down; the program will recognize capital letters and numbers only. Press **[SPACE BAR]** and then type in your password. Now press **[RETURN]**. It is advisable to change passwords periodically. However, when passwords are changed, sometimes they are forgotten as well. If that happens, type **MICROT83UN** at the *Hello Page*. Now you enter the *Grade Book*. Do not use **MICROT83UN** as your normal password. It is designed to be a “pass key” only.

The cursor moves automatically to the class list. Type in a student's name. Press either **[SPACE BAR]** or **[RETURN]** to move to the next line.

When you have entered all the students' names (the Learning Manager can keep records for up to 35 students), press **[CTRL] [C]**. You see **WOULD YOU LIKE TO SAVE NEW LIST?**

at the bottom of the screen. If you do not want to save the list, press **[N]**. The computer will ask you to reboot. Press **[CTRL] [RESET]**. If you are using an Apple IIe press **[CTRL] [⌘] [RESET]**. You will return to the *Stop Sign* display. You can repeat these steps and enter a new password and class list.

If you want to save the class list, press **[Y]**. The *Hello Page*, (the first page a student sees when using *Learning to Read*,) appears.



The computer is waiting for one of the names in the class list to be typed in. The lessons will begin as soon as a listed name is entered.

The Learning Manager allows you to make other changes to the system. The bottom of the screen constantly displays a menu with the following options:

[E]rase Students

[A]dd Students

[C]hange Echo Slot

[R]ename Teacher

[G]o to Hello Page

[T]ransfer Students

[L]ook at Class List

Erase allows you to erase individual student names or the entire class list and the password. You do not have to type in the student names when deleting a list. When the question **ERASE ENTIRE CLASS LIST** appears on the screen, answer **YES** if you want to delete the entire list; answer **NO** if you want to delete only one or several names.

Change lets you change the slot number in which the ECHO II is installed.

Go to Hello Page allows you to leave the Learning Manager and save the updated class list. You can use this option to “erase” the changes you have made to a class list before they become “permanent”. The class list will be returned to its previous state.

Look allows you to scan the entire class list by “turning the pages” with the **[SPACE BAR]**.

Add lets you enroll a new student in the class list. Do not press **[SPACE BAR]** or **[RETURN]** while entering names in the class list. The Learning Manager will skip that position, leaving it empty. You cannot go back and fill in empty positions, so be careful not to enter blank lines in the class list. If you enter a blank line accidentally, use the **Erase** option to remove it.

Rename allows you to change the password without changing the class list. It is a good idea to change the password every now and then to prevent unauthorized alterations to the class list.

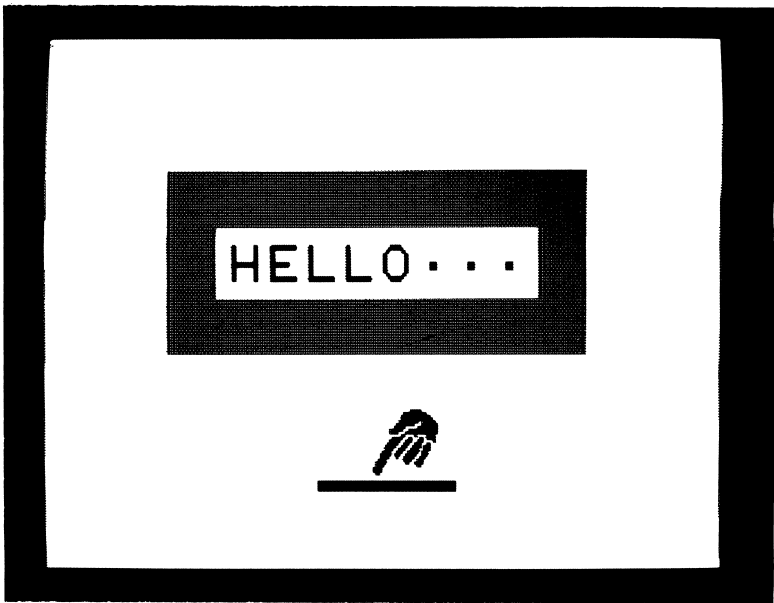
Transfer lets you transfer students from one lesson disk to the next lesson disk. You need not create a class list for each disk. A student who has completed the last lesson on a disk (and does not require review), will see a *Stop Sign* the next time he tries to use that disk. Press **[CTRL] [C]** when the *Stop Sign* appears. The child is ready for the first lesson on the next disk, and the options **T)ransfer the student** or **C)ontinue** appear. Press **[C]** to return to the *Hello Screen* if you want another child to continue on the current disk. Press **[T]** to transfer the student to the next disk. The prompt **PLEASE INSERT DISK# VOL#AND PRESS THE [SPACE BAR]** appears. Insert the disk designated by the computer into the disk drive and press **[SPACE BAR]**. The child will be transferred to the class list of the new disk. Your password will be transferred as well, so you can access the class list. The message, **PRESS ANY KEY TO CONTINUE**, now appears. Press any letter key on the keyboard and the *Hello*

Screen of the new disk appears. Now the child can type in his name and begin a lesson.

Beside each student's name are two columns **Next lesson** and **Review lesson**. The Learning Manager indicates which lesson the student will study if no review lesson is required. The Review column indicates which lesson will be given automatically to the student at the next session. Review lessons take precedence over regular lessons.

HELPING CHILDREN TO USE LEARNING TO READ

The first page a child sees when using *Learning to Read* looks like this:



The figure at the bottom of the screen means press [**SPACE BAR**]. This program gives verbal instructions. The computer asks the student to type his name. This name must appear in the class list for the lessons to proceed. For very young children, it may be necessary for the parent or teacher to type the name

at first. After becoming familiar with the keyboard, the student should be able to type his own name.

If the session is the first for a student, the program will start with Lesson 1. If the student has used the program before, the Learning Manager will start the student either on the next lesson or a review lesson.

Each lesson in *Learning to Read* takes from 15 to 20 minutes. Students vary in their response time and attention, so the duration of each lesson is difficult to predict. Some readers may move through a lesson faster than others.

Learning to Read is serious instruction, not merely drill and practice or game-playing. The program requires considerable concentration and effort on the part of the student. Because of the effort required, students usually do better if they complete only one lesson in a given session. Though *Learning to Read* is serious instruction, it is an entertaining and effective way for young children to learn to read.

Ten Things You Can Do To Help Your Child

Learning to Read is designed to teach most of the essential reading skills. There are, however, several things you, as a parent or teacher, can do to help your child get the most out of the lessons.

SET UP the computer to suit your child. Quite often, computers are placed on a desk or table, too high for a small child to see and operate comfortably. Provide a pillow or booster chair so that your child can reach the keyboard. Kneel down to the child's level and look for distracting glare or reflections on the screen. Move the monitor or reposition the computer to eliminate these problems.

SCHEDULE a regular time when your child can work with the computer. It is important that he work on at least one lesson every day so that learning is retained. Research has shown that doing schoolwork at the same time every day nurtures good

study habits and surrounds the act of learning with an atmosphere of anticipation.

EXPLAIN the rules of the activities. *Learning to Read* explains each activity verbally. It also allows a child to hear the directions as many times as he requires. However, telling the child a bit about what is taking place on the screen may help him to understand the activities better and therefore make more rapid progress.

ASK your child to explain or tell you what he is doing. The act of verbalizing helps children remember information, and they are usually glad to display their knowledge for an adult.

TELL your child which key is [RETURN], [SPACE BAR], [←], [→], and especially [?]. You should also tell your child that [?] is called the HELP key. He can use [?] whenever he needs help in reading a sentence.

ENCOURAGE your child to repeat the sounds and words out loud. Verbal instructions direct the student to say the sound or word before the computer says it. Primary grade children are quick to repeat the words when asked to do so, but sometimes a little encouragement is needed before a child will say letters and words before the computer does. Learning will be enhanced if your child responds verbally before the computer provides the word or sound.

REMIND your child to point to the letters and words. Throughout *Learning to Read* your child is asked to point to a letter or word because pointing helps to focus a child's attention on what is being discussed.

ASSIST your child if necessary! Your child might need to repeat a lesson several times. If this happens, your help with the lesson will keep him from becoming discouraged.

DEFUSE competition, if more than one child is working at the computer. *Learning to Read* is an individual activity and a child's performance is affected by readiness, age, maturity, and physical limitations such as vision or hearing problems. Tell children that the computer gives everyone different things to do at different times. Discourage the "What lesson are you on?" kind of ques-

tion and encourage the children to talk about what they accomplished or how much they enjoyed using the program.

PROVIDE opportunities for your child to read in addition to using the *Learning to Read* series. Encourage your child to read letters and words in his environment: billboards; cereal boxes; street signs; and books. Using a newly-learned skill with other materials is called transfer. It is exactly this transfer that we are trying to achieve with this program. Recent research has shown that *Learning to Read* teaches reading skills that transfer to the Metropolitan Reading Test, a nationally recognized standard exam. You can enhance this transfer by providing many opportunities for your child to practice reading.

HOW THE SYSTEM TEACHES READING SKILLS

The Prompting System

Learning to Read: Letters, Words, and Sentences uses a multi-level prompting system to provide immediate help with associating letters and sounds. The prompting system is especially effective when a word contains an alternate spelling. The student is presented with:

The hat is red.

If all the letter sounds are familiar, the child says the sound represented by each letter, blending the sounds until each word is recognized. If the sounds associated with letters are not recognized or if the student forgets that the two letters *th* make one sound, *Learning to Read* provides some clues to discover the answer. The young student can press [?] for help. The sentence now looks like this:

The hat is red.

The underline shows the child where to start decoding the sentence. Some young readers are not aware of the left-to-right convention for reading English. If the child still does not recognize the underlined word, he can press [?] a second time. The sentence now looks like this:

The hat is red.

Underlining the *Th* shows the reader that the letters *th* make one sound. If he still does not remember the correct sound, he

can press [?] a third time. This time the sentence does not change, but the reader is provided with an audio clue. He hears an adult male voice pronounce the sound made by the letters *th*. The underline moves to the next letter to show the reader where to go next. The sentence now looks like this:

The hat is red.

A previous lesson has taught that the letter *e* makes the *e* sound, as in the word *red*. The reader may try to blend the *e* sound with the *th* sound and fail to recognize the resulting word. If he presses [?] now, the sentence now looks like this:

The hat is red.
u

The student has already learned that the letter *u* makes the *u* sound, as in *under*. Now he should be able to blend the *th* and the *u* sound together and recognize the word *the*. If the student has forgotten that the letter *u* makes the *u* sound, he can press [?] again. The voice pronounces the sound *u*.

The same series of clues is available for each word in each sentence. If the student recognizes the word as it is underlined, he presses [SPACE BAR] to move the underline to the next word in the sentence.

If the student wants some help with decoding a word, pressing [?] provides several levels of prompting: underlining the letter or letters; providing an alternate letter associated with the required sound; and finally pronouncing the sound aloud. The beginning reader can get as much help as he needs in decoding letters and letter groups by using [?].

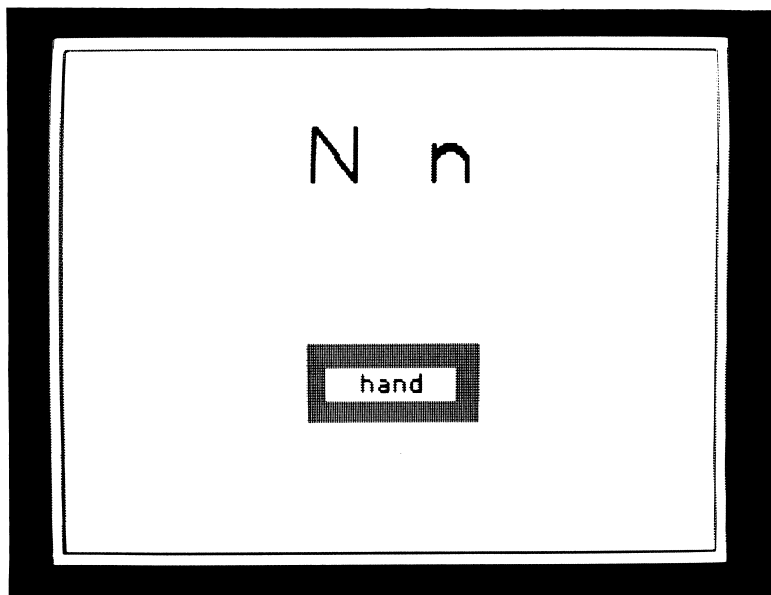
Will this prompting system make your child dependent on the computer? Will a child continue to press [?] even when he needs no help in decoding? The answer is no! Reading becomes faster and smoother with practice. As the skill is mastered the reader will recall the sound associated with a letter as soon as he sees the letter. Eventually, whole words are recognized. Pressing [?] becomes unnecessary and mastering the decoding process is more interesting than “playing” with the keyboard. Some [?] pressing will occur just for fun, but the novelty will soon fade. Just as a young child stops holding an adult’s hand when learning to walk, he will stop using the prompting system’s help. He simply won’t need it anymore.

LEARNING ACTIVITIES

Learning to Read uses a variety of activities to teach reading while keeping the young child interested and motivated. Each lesson combines these various instructional activities to teach and review specific concepts. The lessons use similar directions and screen displays so that the program becomes familiar and easy to use. The content changes from lesson to lesson so that the young reader's interest is maintained. Different lessons use different combinations of activities depending on the techniques best suited to teaching particular letters or digraphs. (For a complete listing, see Appendix.)

Letter, Digraph, and Word Presentation

Here is a typical screen display in the *Letter Presentation* activity.

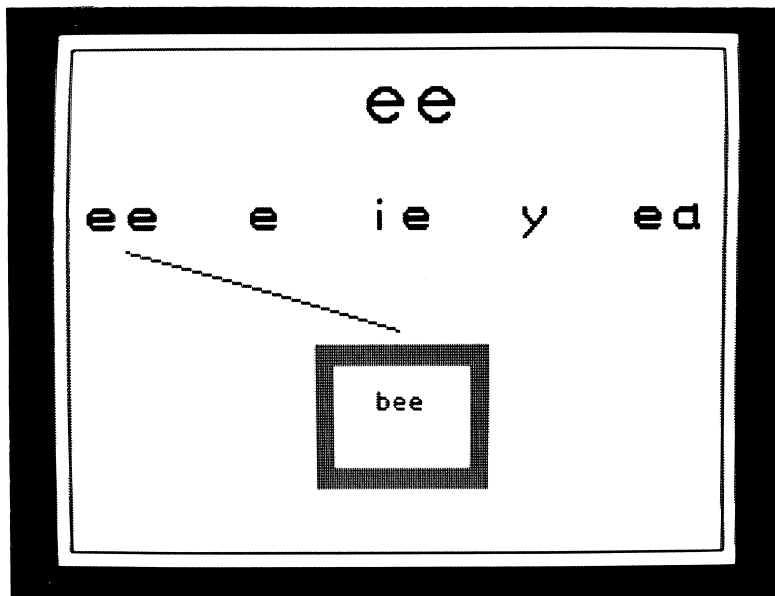


Letter presentation is the primary activity for teaching letter sounds. A single letter is presented in its upper and lower case forms. The sound associated with that letter is spoken by the computer voice. The student is asked to point to the letter and to say the sound. A word containing the letter appears on the screen and the student is asked to point to the word. Then the computer pronounces the word.

This process is repeated for several words, all containing the same sound. Following the word presentations, the computer asks the student to find the letter on the keyboard. When he presses the letter key, the computer plays a familiar tune and shows a happy face to reward a correct answer.

An advanced version of this activity presents a digraph (e.g. *ch*, *sh*, *th*) instead of a single letter. This same presentation sequence is used to teach the sound associated with each digraph.

Below is a typical screen in another variation of this activity for teaching alternate sounds.

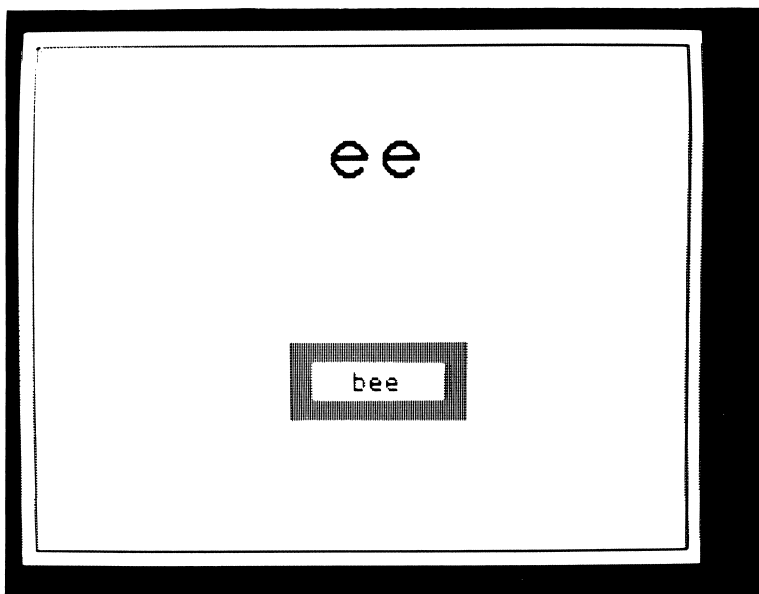


In this variation the student is shown the letters associated with the sound, at the top of the screen. The next row of letters or letter combinations also makes the same sound. The student is then shown several words containing these alternative

ways of representing the sound. Each word is pronounced by the computer as it is shown.

Letter Review

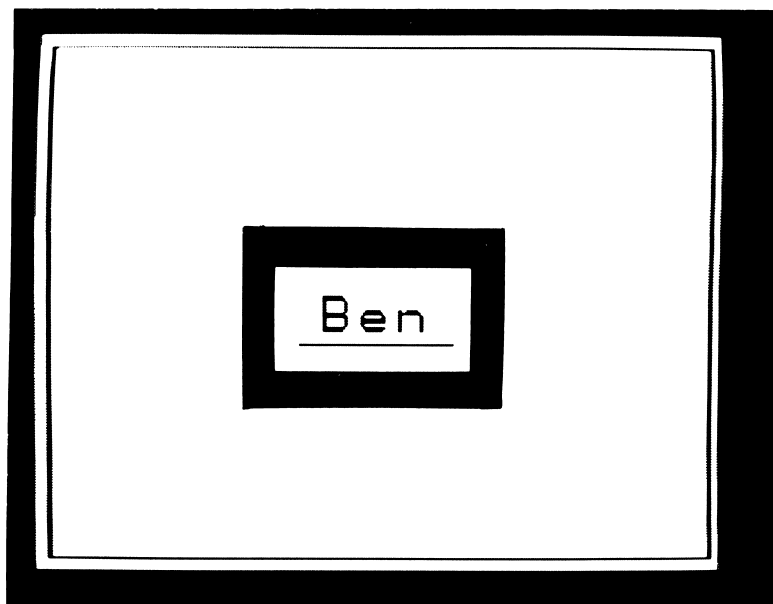
Here is a typical screen display in the *Letter Review* activity.



This activity allows the beginning reader to review the letters he has learned. Letters and their associated sounds taught in previous lessons are presented one at a time. As each letter appears on the screen, the student is asked to say the sound aloud. Then the computer voice says the letter sound. The child can compare his response with the correct sound. In this activity, letters are presented one at a time in groups of six. After each set of six letters, the review stops and the student is asked to press **[SPACE BAR]** to continue.

Word Review

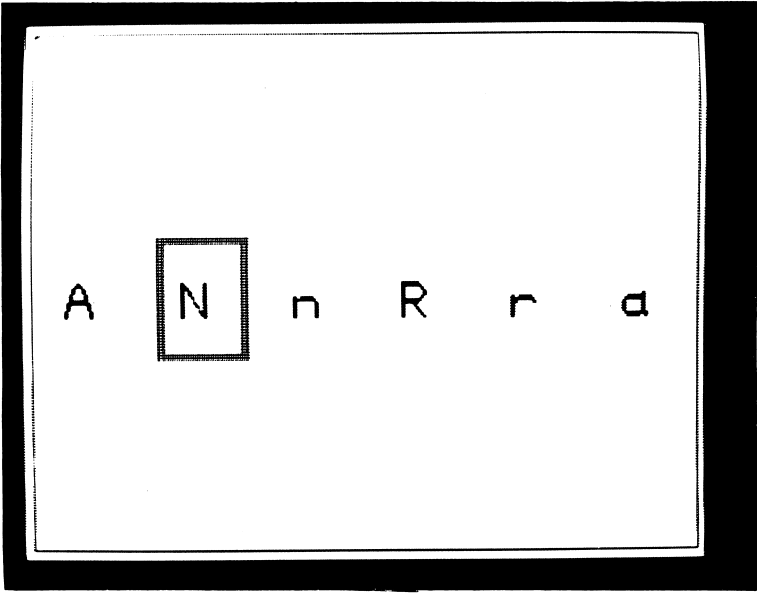
Here is a typical screen display in the *Word Review* activity.



Here, the young reader can review words he has learned in previous lessons. Words are presented one at a time. The computer asks the child to say each word aloud as it appears on the screen. After a short delay, the computer says the word. After each group of six words, the student is asked to press **[SPACE BAR]** to continue.

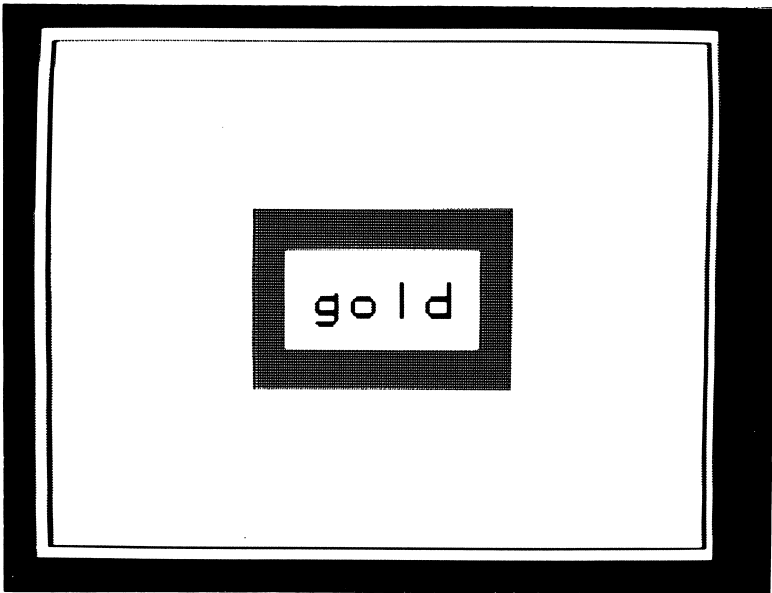
Box Drill

The following page shows a typical screen display in the *Box Drill* activity. This drill gives the young reader practice in matching letters and sounds. A row of letters appears on the screen and a box is placed around one of the letters. The computer voice pronounces a sound and asks the child whether that is the sound associated with the letter in the box. If the sound and the letter in the box match, the student responds by pressing **[SPACE BAR]**. If they do not match, the student responds by pressing **[RETURN]**. The computer makes a gentle buzz for an incorrect response and shows a happy face for a correct response.



Blending Drill

Here is a typical screen display in the *Blending Drill* activity.

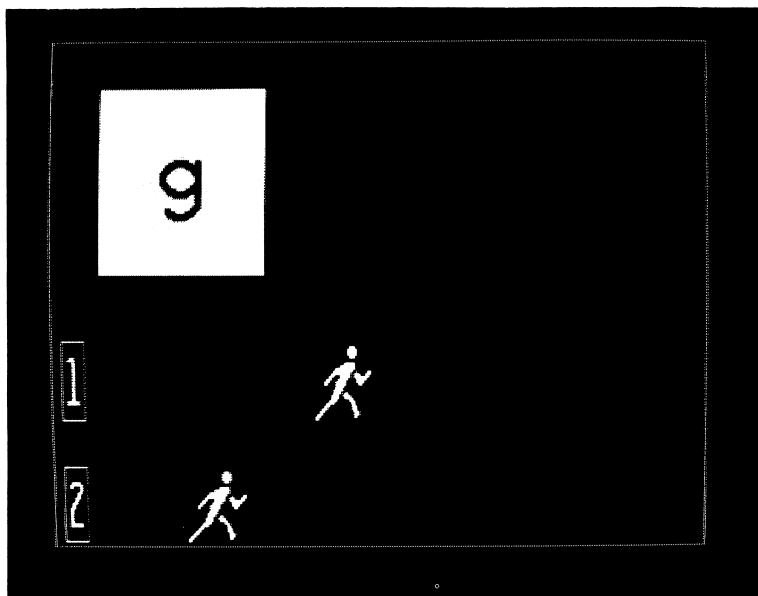


The blending drill teaches the beginning reader to blend two or more sounds to form a word. A word appears on the screen. The first letter or digraph is underlined while the computer voice says the sound. This process is repeated for each sound in the word. Then the whole word is underlined and the computer says the whole word.

When sentences are used in this activity, each word is “sounded out” in this same way. Finally, the computer voice reads the whole sentence. After demonstrating the blending process, the drill is repeated with a delay, before the computer says the sound. The child is asked to pronounce the sound before the computer says the sound. The underline moves from letter to letter as a cue to the blending process.

Letter-Sound Association Games

Jogger, a letter-sound association activity, looks like:



This activity is an interesting way to practice letter-sound associations. A letter learned in an earlier lesson is presented, and a sound is pronounced by the computer voice. The student

is asked to press **[SPACE BAR]** if the letter and sound match. He presses **[RETURN]** if the sound spoken by the computer is not the sound associated with the letter shown.

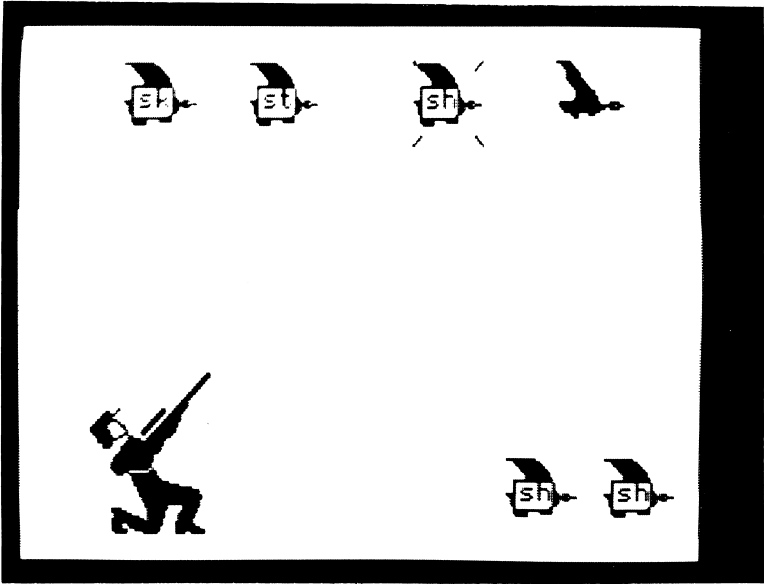
The first jogger represents the student; the second jogger represents the computer. When the student's response is correct, the student's jogger runs forward. When the student is incorrect, the computer's jogger runs forward. When the student's jogger reaches the finish line (he has correctly identified several letter-sound pairs) a checkered flag appears and the computer plays a tune. The student can repeat the game by pressing **[RETURN]**. A second version of this game uses race cars instead of joggers.

Jogger and Drag Race are testing devices as well as practice activities. The games provide an opportunity to examine the student's knowledge of letter-sounds in a game situation while the Learning Manager keeps track of which letters are missed during the game. Misses are cumulative. If the student misses a particular letter more than three times in the first eight lessons, then the lesson which teaches that letter will become a review lesson. If, for example, in the game for Lesson 7, the student misses a letter which was taught in Lesson 2, then Lesson 2 will become a review lesson. Letter-sound associations must be completely learned before alternative letter-sound combinations can be taught effectively.

Letter Discrimination Games

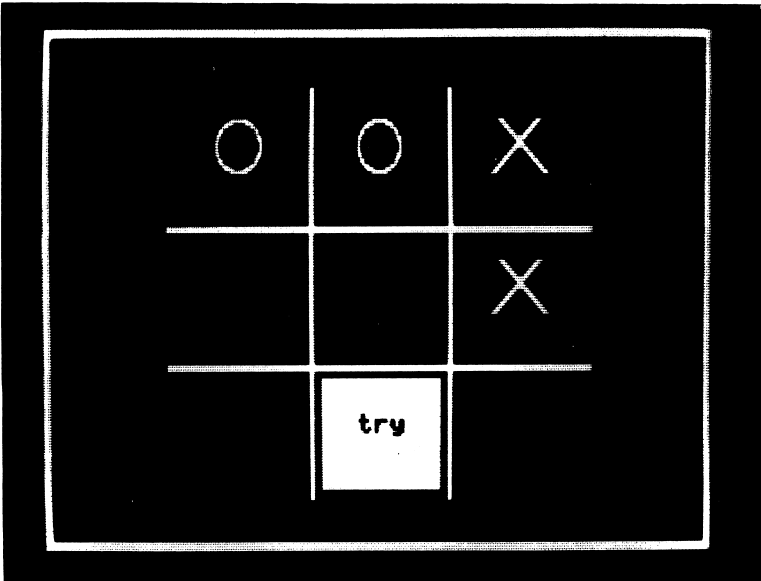
Marksman, a letter discrimination activity, is pictured on the following page. This game asks the student to discriminate the digraph being taught from other, potentially confusing digraphs. The digraph to be recognized is pronounced by the computer. A bird containing that digraph flies across the upper part of the screen. When it is in the "gun sights", the child presses **[SPACE BAR]** to fire his rifle. This continues until the student has shot down several birds containing the digraph being taught.

A similar game using space ships, requires the child to move a gun across the bottom of the screen and to shoot invading spacecraft as they descend. He must shoot all the alien space ships containing the identified digraph.

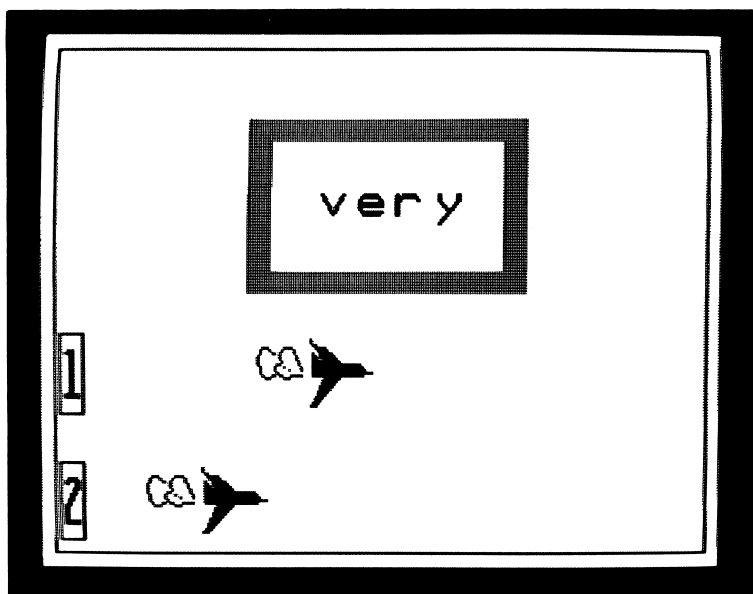


Word Identification Games

Tic Tac Toe, a word identification activity, looks like:



This game provides practice in reading previously learned words. The words appear, one at a time, in one of the Tic Tac Toe squares and the computer voice pronounces a word. If the pronounced word matches the word written in the square, the student presses **[SPACE BAR]**. If the pronounced word does not match the written word, the student presses **[RETURN]**. When the student is correct, an **X** replaces the word. When he is incorrect, an **O** replaces the word. When the student places three **X**'s consecutively, the screen flashes and the computer plays a tune as a reward.



Jetman, another word identification game, resembles Jogger. A word, which involves alternate spellings, appears on the screen. The computer pronounces a sound associated with one of the letters or digraphs in the word. The child must pick out the letter or digraph associated with the sound by pressing **[SPACE BAR]** when that letter or digraph is underlined. The underline moves from letter to letter until the child makes his choice. When the child is correct, his jet moves forward. When the child is incorrect, the computer's jet moves forward.

Word Check

Here is a typical screen display in the *Word Check* activity.



This activity assesses both reading comprehension and diagnoses confusion about particular letters. This multiple choice reading quiz presents words that must be read and matched with a picture or a spoken word. The words in each answer set identify a particular kind of reading error. If the student makes an error, the program provides immediate additional practice with the letters and words that were confused. After the remedial drill is completed, the missed item is repeated and the Word Check continues.

Sentence Reading

Here is a typical screen display in the *Sentence Reading* activity.



Learning to Read introduces sentence reading at the program's most elementary levels. This activity requires the student to read a sentence that is presented in three different formats.

Modeling: The sentence appears on the screen and each word is underlined as it is pronounced by the computer.

Example with Delay: The sentence appears on the screen. The student is asked to read each word as it is underlined before the computer pronounces the word.

Practice: The sentence appears on the screen and the student is asked to read the sentence aloud.

Initially, there are no prompts to help the student. If he needs help, the student can press [?] to use the multi-level prompting system described previously. The first press of [?] underlines the letter or digraph which makes the sound. The second press of [?] substitutes another letter previously associated with that sound. On the third press of [?], the computer voice pronounces the sound.

Sentence Comprehension

Here is a typical screen display in the *Sentence Comprehension* activity.



This activity involves reading and understanding sentences. Three simple pictures are displayed above a sentence. The sentence describes one of the pictures. The sentences and pictures are specially constructed so that the student must understand the sentence in order to choose the correct picture. The child is presented with three different sentences, one at a time, which describe the pictures. He receives both musical and verbal reinforcement for correct responses. If the student chooses the wrong picture, the computer makes a soft buzz, clears the screen, and begins the Sentence Review activity.

Sentence Review

Here is a typical screen display in *Sentence Review* activity.



→ I see the **star** and the moon.

I see the tree and the moon.

This activity immediately follows *Sentence Comprehension* if the child fails to match a sentence with its corresponding picture. The child is presented with two sentences as shown above. The first sentence is the one which has just been mismatched in the *Sentence Comprehension* activity. The second sentence corresponds to the picture which was chosen incorrectly. The computer highlights key words and pronounces them for the reader in order to contrast the two sentences which were confused. Following the remedial presentation of the two sentences, the student repeats the *Sentence Comprehension* activity with the same sentence.

APPENDICES

A GUIDE TO THE LEARNING TO READ SERIES

Learning to Read: Letters, Words and Sentences consists of four separate volumes, each made up of two or three disks. Each disk contains several lessons. The number of lessons on each disk varies with the content of the lessons. Each lesson teaches specific letter-sound combinations, digraph-sound combinations, or alternate spellings. Each concept is taught through several different kinds of learning activities. The learning activities are described in more detail in the “Instructional Techniques” section of this guide.

Volume 1 : Disk 1

Lesson 1	Oo	Ss	Gg
Lesson 2	Nn	Rr	Aa
Lesson 3	Dd	Mm	Hh
Lesson 4	Bb	Ee	Uu
Lesson 5	Tt	Kk	Ii
Lesson 6	Ll	Pp	Jj
Lesson 7	Ff	Vv	Ww
Lesson 8	Yy	Zz	

Instructional Techniques for Lessons 1-8

Letter Review (except for Lesson 1)

Word Review (except for Lesson 1)

Letter Presentation

Box Drill

Blending Drill

Games (Jogger, DragRace)

Volume 1 : Disk 2

Lesson 9 Phonetic words based on Lessons 1-8

Instructional Techniques for Lesson 9

Word Drill
Word Check
Letter Drill
Word Drill

Lesson 10 Sentences based on Lesson 9

Instructional Techniques for Lesson 10 Sentence Reading with Prompting

Volume 2 : Disk 1

	sound	alternate spelling
Lesson 11	/sh/	
Lesson 12	/ch/	
Lesson 13	/th/	
Lesson 14	/wh/	
Lesson 15	/e/	e ea
Lesson 16	/o/	ow oa

Instructional Techniques for Lessons 11-16

Letter Presentation
Discrimination Drill
Games (Marksman, Alien)
Word Check
Letter Review
Word Review
Sentence Reading with Prompting

Volume 2 : Disk 2

	sound	alternate spelling
Lesson 17	/u/	
Lesson 18	ee	o u a e
Lesson 19	/ee/	ee e ie
Lesson 20	/e/	/e/ /ee/ /u/
Lesson 21	ea	/e/ /ee/
Lesson 22	ay	
Lesson 23	/ay/	ay a ai eigh

Instructional Techniques for Lessons 17-23

Letter Presentation
 Games (Marksman, Alien)
 Word Check
 Letter Review
 Word Review
 Sentence Reading

Volume 3 : Disk 1

	sound	alternate spelling
Lesson 24	aw	
Lesson 25	/aw/	aw au o a
Lesson 26	/a/	a u aw ay
Lesson 27	i	/i/ /iy/
Lesson 28	o	/o/ /u/ /aw/
Lesson 29	oo	

Instructional Techniques for Lessons 24-28

Letter Presentation
Games (Jetman, Tic Tac Toe)
Sentence Comprehension
Sentence Review

Volume 3 : Disk 2

	sound	alternate spelling
Lesson 30	/oo/	oo ew u
Lesson 31	u	/u/ /oo/ /yoo/
Lesson 32	Silent "E" Rule	
Lesson 33	y	/y/ /iy/ /ee/
Lesson 34	/iy/	i y igh

Instructional Techniques for Lessons 30-34

Letter Presentation
Silent E
Discrimination Drill
Sentence Comprehension
Sentence Review
Games (Tic Tac Toe, Jetman)

Volume 4 : Disk 1

	sound	alternate spelling
Lesson 35	ou	
Lesson 36	/ou/	ou ow
Lesson 37	ow	/o/ /ou/
Lesson 38	oy	
Lesson 39	/oy/	oy oi
Lesson 40	oo	/oo/ /uh/

Instructional Techniques for Lessons 35-40

Letter Presentation

Games (Jogger, DragRace, Jetman)

Sentence Comprehension

Sentence Review

Volume 4 : Disk 2

	sound	alternate spelling
Lesson 41	s	/s/ /z/
Lesson 42	c	
Lesson 43	x	
Lesson 44	/f/	f gh ph
Lesson 45	/k/	k c ck
Lesson 46	/j/	j g ge

Instructional Techniques for Lessons 41-46

Letter Presentation

Games (Tic Tac Toe, Jetman)

Sentence Comprehension

Sentence Review

Volume 4 : Disk 3

	sound	alternate spelling
Lesson 47	/er/	
Lesson 48	/er/	ir
Lesson 49	/er/	er, ir
Lesson 50	/ear/	ear, eer
Lesson 51	th	/th/ /thh/
Lesson 52	qu	

Instructional Techniques for Lessons 47-52

Letter Presentation

Sentence Comprehension

Sentence Review

Games (Tic Tac Toe, Jogger, DragRace)

TROUBLESHOOTING

Although Peachtree products are subject to rigorous testing, errors remain a possibility. Before you attribute a problem to defective software, take a few moments to consider the following:

UPPER CASE CHARACTERS? This program will only recognize commands in upper case characters. If you have modified your Apple II or Apple II+ to provide both upper and lower case capability you must disconnect the modification so your keyboard is locked in the upper case position or make sure the shift key is pressed down before typing commands.

CAPS LOCK DOWN? Both the Apple IIe and Franklin Ace 1000 require that the CAPS LOCK be in a down position before this program will recognize commands.

CONTROLLER CARD INSTALLED? A DOS 3.3 Controller Card must be installed in slot #6 of your computer for the program to work properly.

BOOTING ERRORS? If the computer does not boot the program properly, open the disk drive latch, slide the disk out and then back into the disk drive as far as it will go, then reclose the latch. If the problem remains, insert a disk that you know works properly. If this disk does not work, you may have a problem with your disk drive. Should the problem be confined solely to the Peachtree disk, return the disk to us for replacement or correction.

I/O ERRORS? This error message flashed on your screen usually indicates a defective disk. Repeat the procedures listed

under **BOOTING ERROR**. If the message remains, return the disk to us for replacement or correction.

PROGRAM ERROR or DEFECTIVE DISK? Return the disk to us for correction or replacement.

DO NOT WRITE PROTECT THE DISK. File writing occurs during the use of the program; do not place a Write Protect tab on the program disk.

Please call us if difficulties using this program persist. You can reach our Customer Service representative at 818-706-0661.

NOTES

Apple of Apple II, Apple IIe, and Apple III, is a registered trademark licensed to Apple Computer, Inc.

Franklin Ace 1000 is a trademark of Franklin Computer Corporation.

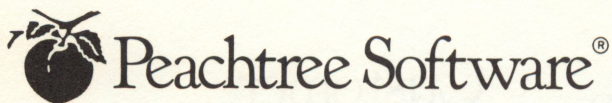
Echo II Speech Synthesizer is a trademark of Street Electronics, Inc.



Personal Computer Products

Management Science America, Inc.

3445 Peachtree Road, N.E., 8th Floor
Atlanta, Georgia 30326



Customer Assurance Program



Please Note

At Management Science America, Inc. (MSA), there's a strong commitment to customer service and support for all of our products, particularly our Peachtree Software line of microcomputer packages. We offer a full range of support services, all designed to help insure that you get the maximum possible benefits from your Peachtree Software products. This booklet describes those services, including:

- Customer Registration
- Customer Support
- Product Upgrade Plan
- Product Replacement Plan
- Limited Warranty
- License Agreement
- Replacement Order Card
- Customer Registration Card

Customer Registration

To take advantage of MSA's Peachtree Software customer services, you must be a registered Peachtree Software product user. Please take a moment now to fill out and return the Customer Registration Card that's attached to this booklet. Returning the registration card gives you access to:

- Peachtree Software Customer Support
- Peachtree Software Extended Support
- The Peachtree Software Upgrade Plan
- The Peachtree Software Product Replacement Plan

The registration card provides proof of delivery so you don't have to send receipts or other records when you apply for warranty service.

Customer Support

Peachtree Software Customer Support is **free** of charge for the first 90 days following delivery of the product. This program is designed to give you complete assistance during that crucial start-up period. Should you encounter any difficulty in using the program, or if the program does not operate as described, we suggest that you do the

License Agreement

PLEASE READ THIS LICENSE AGREEMENT BEFORE OPENING THE ENVELOPE WHICH CONTAINS THE COMPUTER SOFTWARE PROGRAM. BREAKING THE SEAL ON THIS ENVELOPE INDICATES YOUR ACCEPTANCE OF THE LICENSE TERMS. IF YOU DO NOT AGREE WITH THE TERMS, YOU SHOULD RETURN THE PACKAGE WITH THE ENVELOPE UNOPENED TO THE DEALER WITHIN FIFTEEN (15) DAYS AND YOUR MONEY WILL BE REFUNDED.

Peachtree Software Incorporated (PSI) provides the computer software program and User Manual contained in the package (the "Program"), and licenses its use on the terms stated below;

a. You are granted a license to use the Program under the terms stated in this Agreement for personal use in your business or profession. Title and ownership of the program remains in PSI;

b. the Program may be used by you on a computer which you own or use for which the Program is designed to

operate.

c. you may not make copies, translations or modification of or to the Program, except you may copy the Program into machine-readable or printed form for backup purposes in support of your use of the Program. (Any portion of this Program merged into or used in conjunction with another program will continue to be the property of PSI and subject to the terms and conditions of this Agreement.);

d. you may not use the Program in a service business, network, timesharing, interactive cable television, multiple CPU or multiple site arrangement or make telecommunication data transmissions of the Program;

e. you may not assign, sell, distribute, lease, rent or transfer the Program or this license to any other person;

f. the limited warranty and limitation of liability provisions contained in the Customer Assurance Plan are incorporated herein by reference; and

g. this license terminates if you fail to comply with any provision of this Agreement. You agree upon termination to destroy the Program, together with all copies, modifications and merged portions in any form.

Should you have any questions concerning the Agreement, you may contact PSI by writing PSI, 3445 Peachtree Road, N.E., Atlanta, Georgia 30326-9980.



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following in order:

1. Consult the user's manual and other instructional materials that accompany the product. They contain answers to most users' questions. Also check to see if the program supports the particular operating system, interfaces and peripherals that you have.

2. Consult your dealer. Most dealers are knowledgeable about Peachtree Software products and are your convenient local source of information.

3. Finally, if your question cannot be answered by reading the manual or consulting your dealer, call:
For accounting and office productivity at (404) 239-3165 between 8:30 a.m. and 7:00 p.m. (Eastern Standard Time) Monday thru Friday.
For educational products at (818) 706-0661 between 8:00 a.m. and 5:00 p.m. (Pacific Time) Monday thru Friday.

Before calling, please gather all information relating to the problem. This will make it simpler for our service representative to understand the problem and offer advice and other assistance through Peachtree Software's Extended Support Plan. MSA offers you continuing support for your Peachtree Software product in the form of telephone advice and other assistance. Peachtree Software Extended Support not only protects you against software problems but allows you to access a range of special Peachtree services, including package amendments, updates and a user news-

letter. Peachtree Software Extended Support is available at an additional charge and information about the extended support service will be forwarded to you upon receipt of the completed Customer Registration Card.

Product Upgrade Plan

New versions of Peachtree Software products, incorporating new features and capabilities, are regularly introduced as part of our company's ongoing development program. The Peachtree Software Product Upgrade Plan enables existing customers to take advantage of these enhancements. Under the Product Upgrade Plan:

- You will be notified by mail whenever a new version is introduced.
- You have the option to obtain new versions of your product when they are introduced at a special upgrade price.

Important: To qualify for the Product Upgrade Plan, you must complete and return the Customer Registration Card.

Product Replacement Plan

Peachtree Software products have a limited warranty for 90 days as specified in the Limited Warranty section below. In addition, if your disk(s) become damaged after the warranty expires, Peachtree will

Limitation of Remedies

Peachtree's entire liability and your exclusive remedy shall be as follows:

1. With respect to defective media during the warranty period:
 - a. Peachtree will replace media not meeting Peachtree's "Limited Warranty" if returned to Peachtree with a copy of your receipt.
 - b. In the alternative, if Peachtree is unable to deliver replacement media free of defects in materials and workmanship, you may terminate your License Agreement by returning the Program and your money will be refunded.
2. In all situations involving performance or nonperformance of the Program during the warranty period, your exclusive remedies are (a) Peachtree will correct or bypass program defects, or (b) if, after repeated efforts, Peachtree is unable to make the program operate as warranted, you will be entitled to a refund of the money paid or to recover actual damages to the limits set forth below.

For any other claim concerning performance or nonperformance by Peachtree pursuant to the License Agreement, or in any other way related to the Program, you shall be entitled to recover actual damages to the limits set forth below.

IN NO EVENT WILL PEACHTREE OR ITS AUTHORIZED REPRESENTATIVE BE LIABLE TO YOU FOR ANY LOST PROFITS, LOST SAVINGS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE ANY PROGRAM EVEN IF PEACHTREE OR A PEACHTREE AUTHORIZED REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY. SOME STATES DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATIONS OR EXCLUSION MAY NOT APPLY TO YOU.

Peachtree's liability to you for actual damages for any cause whatsoever, and regardless of the form of action, shall be limited to the greater of \$1,000 or the money paid for the program that caused the damages.

replace it for a \$25.00 replacement charge (\$5.00 for educational products) plus shipping, handling and taxes if applicable. Both the Limited Warranty and the follow-up Product Replacement Plan apply only to the original customer.

For replacement during the warranty term, complete the Replacement Order Card. Send original defective product, replacement order card and proof of delivery (proof of delivery not required if product is registered) to Peachtree Software Customer Support, Dept. O, 3445 Peachtree Road, N.E., Atlanta, GA 30326-9980.

To qualify for the post-warranty Product Replacement Plan, you must be a registered Peachtree Software product user. Be certain that you have completed and returned your Customer Registration Card.

Limited Warranty

Peachtree warrants that the Program substantially conforms with the program specifications contained in the documentation, provided that the Program is used on the computer hardware and operating system for which it was designed.

Peachtree warrants the media on which the Program is furnished will be free from defects in material or workmanship under normal use. If you believe the media on which the Program is furnished is defective,

return the media to Peachtree for replacement during the Peachtree warranty period. The Peachtree Limited Warranty is for ninety (90) days from delivery as evidenced by your receipt.

You assume responsibility for selecting of the Program to achieve your intended results. Peachtree is not responsible for the installation, use of, or results obtained from the Program. Peachtree does not warrant that the functions contained in the Program will meet your requirements or that the operation of the Program will be uninterrupted or error free, or that defects will be corrected.

THE LIMITED WARRANTIES STATED ABOVE ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

FREE 90-DAY SUPPORT



Peachtree Software® Registration Card

Peachtree Software Incorporated wishes to provide users with the best possible support for its software products. To help us assist you and guarantee your 90-day support, please return this registration card.

IMPORTANT

I have read and do agree to comply with the terms of the accompanying license agreement.

Signed _____

Print Name to be Registered _____

Company _____

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City, State, Zip _____

Telephone () _____

Software Package Title _____

Purchase Date _____ Serial # _____

Computer Make _____ Model _____

Disk Size _____ Printer _____ Terminal _____

I learned about Peachtree Software through:

- ☐ Computer Dealer ☐ Advertisement ☐ Another User
☐ Other _____

Primary use of computer: ☐ Office ☐ Home ☐ School ☐ Home and Office
☐ Other _____

Is your computer owned by: ☐ Self ☐ Company ☐ Other

Do you have other Peachtree Software packages registered with Technical Support? If so, which ones?



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Education

The Science of Learning

Learning to Read: Letters, Words, and Sentences Volume 1

Apple II, Applesoft, 64K,
DOS 3.3
Apple II+, 64K, DOS 3.3
Apple IIe, Disk Drive
Franklin Ace 1000, 1000 Plus,
Disk Drive
Echo II Speech
Synthesizer required

Learning to Read: Letters, Words and Sentences is a four-volume series designed to teach beginning reading skills using the new phonetic method. Through the use of the ECHO II Speech Synthesizer, this set of programs teaches young children to recognize the sounds associated with letters, letter combinations and words. In addition, it emphasizes sentence comprehension.

An ideal first computer program for children, Learning to Read uses only a few computer keys and has simple, non-distracting screen displays. Directions are "spoken" by the speech synthesizer.

Graphics and animation create an appealing format in which to learn reading skills. Learning to Read also uses a variety of activities to keep children interested and motivated. These activities include:

- Letter Presentation — Individual letters and the sounds associated with those letters are introduced. The letter-sound

pair is then presented in the context of words.

- Games — Letter-sound association games use joggers and race cars to assess a student's mastery. Letter discrimination games feature marksmen and alien spaceships to identify potentially confusing letter combinations. Word identification games provide practice in reading previously learned words.
- Sentence Comprehension — A sentence and three pictures are displayed on the screen. The student must understand the sentence in order to select the correct picture.

The Learning to Read series is an outstanding learning tool for the classroom and home, and provides an excellent beginning or addition to your complete collection of Peachtree Software education, accounting and productivity products.



Personal Computer Products
Management Science America, Inc.

